

2004

ARTICLES IN REFEREED PROFESSIONAL JOURNALS (32)

Al-Sheikh, A., **J.A. Delgado**, K. Barbarick, R. Sparks, M. Dillon, Y. Qian, and G. Cardon. 2004. Effects of Potato-Grain Rotations on Soil Erosion, Carbon Dynamics and Properties of Rangeland Sandy Soils. *J. Soil Tillage Res.* (accepted December 12, 2003).

Bickel, K., J. Brenner, J. Duffield, **R.F. Follett**, L. Heath, J. Kimble, D. Kruger, J. Mangino, **A.R. Mosier**, S. Ogle, K. Paustian, H. Shapouri, J. Smith, T. Wirth, and P. Woodbury. 2004. U.S. agriculture and forestry greenhouse inventory: 1999-2001. United States Department of Agriculture Technical Bulletin No. 1907. 164p.

Delgado, J.A., M.A. Dillon, R.T. Sparks, and **R.F. Follett**. 2004. Tracing the fate of ^{15}N in a small-grain potato rotation to improve accountability of N budgets. *J. Soil Water Conserv.* 59:271-276.

Delgado, J.A., D.W. Reeves, and **R.F. Follett**. 2004. Winter cover crops. *Encyclopedia of Soil Science*. Marcel Dekker, Inc. New York (Accepted, expected publication December 04).

Delgado, J.A., M.L. Dillon, R.T. Sparks, and **R.F. Follett**. 2004. Tracing the fate of ^{15}N in a small-grain potato rotation to improve accountability of N budgets. *Journal of Soil and Water Conservation* 59:271-276.

Delgado, J.A., W. Reeves, and **R.F. Follett**. 2004. Winter Cover Crops. *Encyclopedia Soil Sci.* Markel and Decker, New York, NY. (accepted December 9, 2003).

Devuyst, E.A. and **A.D. Halvorson**. 2004. Economics of annual cropping versus crop-fallow in the northern Great plains as influenced by tillage and nitrogen. *Agron. J.* 96: 148-153.

Follett, R.F., J.M. Kimble, S. Leavitt, and **E.G. Pruessner**. 2004. The potential use of soil C isotope analyses to evaluate paleoclimate. *Soil Science*. 169:71-488.

Halvorson, A.D., D.C. Nielsen, and **C.A. Reule**. 2004. Nitrogen fertilization and rotation effects on no-till dryland wheat production. *Agron. J.* 96:1196-1201.

Hunter, W.J. 2004. Determination of dimethylselenide and dimethyldiselenide by gas chromatography- photoionization delection. *Journal of Chromatography*. 1038: 295-297.

Hunter, W. J. 2004. Injection of innocuous oils to create reactive barriers for bioremediation: Laboratory studies. *Journal of Contaminant Hydrology*. Submitted.

Hunter, W.J. and L.D. Kuykendall. 2004. Removing Selenite from Groundwater with an *In Situ* Biobarrier: Laboratory Studies. *Current Microbiology*. Submitted.

Hunter, W.J. 2004. Invited presentation titled " Bioremediation of Groundwater" presented at UBS Corporation, Oakland, CA. 11/11/2004.



- Kinney, C.A., **A.R. Mosier**, I. Ferrer, E. T. Furlong and K.W. Mandernack. 2004. Effects of herbicides prosulfuron and metolachlor on fluxes of CO₂, N₂O and CH₄ in a fertilized Colorado grassland soil. *J. Geophysical Research* 109: DO5304, doi:10.1029/2003JD003656.
- Kuykendall, L.D. and **W.J. Hunter**. 2004. Harnessing technology to inoculate crops and reduce pollution from fertilizers. Tech Museum Award Executive Summary.
- Kuykendall, L. D. and **W.J. Hunter**. 2004. Poster presentation titled "Harnessing technology to inoculate crops and reduce pollution from fertilizers" presented at the 2004 Tech Museum Award ceremony in San Jose, CA
- Li, C., **A.R. Mosier**, R. Wassmann, Z. Cai, X. Zheng, Y. Huang, H. Tsuruta, J. Boonjawat, and R. Lantin. 2004. Modeling greenhouse gas emissions from rice-based production systems: sensitivity and upscaling. *Global Biogeochemical Cycles*. 18: GB1043, doi:10.1029/2003GB002045.
- Manter, D.K.** and J. Kerrigan. 2004. A/C_i curve analysis across a range of woody plant species: influence of some regression analysis parameters and mesophyll conductance. *Journal of Experimental Botany*. 55:2581-2588.
- Meisinger, J., **J.A. Delgado**, and A. Alva. 2004. Nitrate Leaching Management. *Encyclopedia Soil Science*. Markel and Decker, New York, NY. (accepted December 9, 2003).
- Milchunas, D.G., **J.Y. King**, **A.R. Mosier**, J.C. Moore, J.A. Morgan, M.H. Quirk and J.R. Slusser. 2004. UV radiation effects on plant growth and forage quality in a shortgrass steppe ecosystem. *Photochemistry and photobiology* 79:404-410.
- Morgan, J.A., D.E. Pataki, C. Körner, H. Clark, **S.J. Del Grosso**, J.M. Grünzweig, A.K. Knapp, **A.R. Mosier**, P.C.D. Newton, P.A. Niklaus, J.B. Nippert, R.S. Nowak, W.J. Parton, H.W. Polley, M.R. Shaw. 2004. Water relations in grassland and desert ecosystems exposed to elevated atmospheric CO₂. *Oecologia* 140:11-25.
- Morgan, J.A., **A.R. Mosier**, D.G. Milchunas, D.R. LeCain, J.A. Nelson and W.J. Parton. 2004. CO₂ enhances productivity but alters species composition and reduces forage quality in the Colorado shortgrass steppe. *Ecological Applications* 14:208-219.
- Morgan, J.A., D.E. Pataki, J.M. Grünzweig, C. Körner, P.C.D. Newton, P.A. Niklaus, J. Nippert, R.S. Nowak, W. Parton, H. Clark, **S.J. Del Grosso**, A.K. Knapp, **A.R. Mosier**, W. Polley, R. Shaw. 2004. Water relations in grassland and desert ecosystems exposed to elevated atmospheric CO₂. *Oecologia* 140:11-25.
- Mosier, A.R.**, R. Wassmann, L. Verchot, **J.Y. King** and C. Palm. 2004. Methane and nitrogen oxide fluxes in tropical agricultural soils: Sources, sinks and mechanisms. *Environment, Development and Sustainability* 6:11-49.
- Nelson, J.A., J.A. Morgan, D.R. LeCain, **A.R. Mosier**, D.G. Milchunas and B. Parton. 2004. Elevated CO₂ increases soil moisture and enhances plant water relations in a long-term field study in semi-arid shortgrass steppe of Colorado. *Plant and Soil*. 259:169-179.



Pendall, E., **A.R. Mosier** and J.A. Morgan. 2004. Rhizodeposition stimulated by elevated CO₂ in a semiarid grassland. *New Phytologist*. 162:447-458.

Saseendran, S.A., D.C. Nielsen, L. Ma, L.R. Ahuja, and **A.D. Halvorson**. 2004. Modeling nitrogen management effects on winter wheat production using RZWQM and CERES-wheat. *Agron J.* 96:615-630.

Shaffer, M.J. and R. Flynn. 2004. Installation of Internet NLEAP on a Windows XP machine. Manual, Colorado State University, Fort Collins.

Six, J., S.M. Ogle, F.J. Breidt, R.T. Conant, **A.R. Mosier** and K. Paustian. 2004. The potential to mitigate global warming with no-tillage management is only realized when practiced on the long term. *Global Change Biology* 10, 155-160, doi: 10:1111/j.1529-8817.2003.00730.x.

U.S. Agriculture and Forestry Greenhouse Inventory: 1999-2001. Editor: K. Bickel. Contributors: J. Brenner, J. Duffield, **R.F. Follett**, L. Heath, J. Kimble, D. Kruger, J. Mangino, **A.R. Mosier**, S. Ogle, K. Paustian, H. Shapouri, J. Smith, T. Wirth, and P. Woodbury. Global Change Program Office, Office of the Chief Economist, USDA. Technical Bulletin No. 1907. 164 p. March 2004.

Van Es, H.M. and **J.A. Delgado**. 2004. Nitrate Leaching Index. Encyclopedia Soil Science. Markel and Decker. New York, NY. (accepted December 9, 2003).

Zheng, F., S.D. Merrill, C. Huang, D.L. Tanaka, F. Darboux, M.A. Liebig, and **A.D. Halvorson**. 2004. Runoff, erosion, and soil erodibility on CRP lands converted to crop and hay production. *Soil Sci. Soc. Am. J.* 68:1332-1341.

BOOKS AND BOOK CHAPTERS (11)

Alva, A.K., A. Fares, S. Paramasivam, **J.A. Delgado**, D. Mattos, Jr., and K. Sajwan. 2004. Nitrogen and Irrigation Management Practices to Improve Nitrogen Uptake Efficiency and Minimize Leaching. In *Enhancing the Efficiency of Nitrogen Utilization in Crops*. A. Basra and S. Goyal (Eds.). Haworth's Food Products Press, Binghamton, New York. (accepted September 22, 2003).

Baron, J.S., **S.J. Del Grosso**, D.S. Ojima, D.M. Theobald and W.J. Parton. 2004. Nitrogen emissions along the Colorado Front Range: Response to population growth, land and water use change, and agriculture. In DeFries, R. and Asner, G. (Eds.), *Ecosystem Interactions with Land Use Change*, p. 117-128. American Geophysical Union, Washington D.C.

Bundy, L.G., H. Tunney, and **A.D. Halvorson**. 2004. Agronomic aspects of phosphorus management. Chapter V-1. *Phosphorus Monograph*. SSSA (Book Chapter, In press).

Delgado, J. A., A.K. Alva, A. Fares, S. Paramasivam, D. Mattos, Jr., K. Sajwan. 2004. Numerical Modeling to Study the Fate of Nitrogen in Cropping Systems and Best Management Case Studies. In *Enhancing the Efficiency of Nitrogen Utilization in Crops*. A. Basra and S.



Goyal (eds.). Haworth's Food Products Press, Binghamton, New York. (accepted September 22, 2003).

Delgado, J.A., A.K. Alva, A. Fares, S. Paramasivam, D. Mattos, Jr., and K. Sajwan. 2004. Numerical modeling to study the fate of nitrogen in cropping systems and best management case studies. Enhancing the Efficiency of Nitrogen Utilization in Crops. Book Chapter (In Press).

Delgado, J.A. 2004. GIS, Modeling, and Other Innovative Nutrient management tools that can be used to assess nitrogen fertilizer use efficiency from agricultural systems. Proc. XXXII Mexican Soil Science Society. Nov. 8-10, 2004. Leon, Mexico (CD-ROM).

Flynn, R. 2004. Tomcat Servlet Engine and ArcIMS 3.1 Installation on IIS Web Server. Manual, Colorado State University, Fort Collins.

Flynn, R. 2004. NLEAP ArcIMS Data Setup. Manual, Colorado State University, Fort Collins.

Mosier, A.R., J. Keith Syers and J.R. Freney. 2004. Nitrogen Fertilizer: An essential component of increased food, feed, and fiber production. *In* A.R. Mosier, J.K. Syers, and J.R. Freney (Eds.) Agriculture and the Nitrogen Cycle: Assessing the Impacts of Fertilizer Use on Food Production and the Environment. SCOPE Volume 65, Island Press, Washington D.C. pp 3-15.

Mosier, A.R., J. Keith Syers and J.R. Freney (eds.). 2004. Agriculture and the Nitrogen Cycle: Assessing the Impacts of Fertilizer Use on Food Production and the Environment. SCOPE Volume 65, Island Press, Washington D.C. 296 p.

Rochette, P., **G.L. Hutchinson** 2004. Measurement of soil respiration *in situ*: Chamber techniques. *In* Hatfield, J.L. editor. American Society of Agronomy, Crop Science Society of America, Soil Science Society of America, Madison, WI. Micrometeorological measurements in agricultural systems.

Rochette, P. and **G.L. Hutchinson**. 2004. Measurement of soil-surface greenhouse gas fluxes using chamber techniques: Theory and standard protocol. *In* Montreal, C.M> (Ed.). Canadian Nat'l. Carbon and Greenhouse Gas Accounting and Verification System. (Book chapter).



RESEARCH BULLETINS, PROCEEDINGS AND OTHER RESEARCH REPORTS (7)

Cipra, J., and **Halvorson, A.D.** 2004. Satellite imagery for small plot research and precision farming - Nitrogen relationships in irrigated corn. *In Proc. of the 2004 Great Plains Soil Fertility Conference*. A. Schlegel (Ed.). March 2-3, 2004. Denver, CO. Kansas State University, Manhattan and Potash and Phosphate Institute, Brookings, SD. 10:97-103.

Colon-Guasp, W. and **J.A. Delgado**. 2004. Potential uses of Precision Agriculture and Precision Conservation for Improvements in Nutrient Use Efficiency and Environmental Conservation. *Proc. III Encuentro Cientifico Int'l. de Invierno, 30 de Julio al 2 de Agosto del 2004 Lima, Peru.*

Delgado, J.A. 2004. Use of best management practices and a nitrogen leaching index to maximize N recovery and protect ground water for high risk cropping systems-Landscape Combinations Systems. *Proc. Ontario Nitrogen Forum*. March 3-4, 2004. Niagara Falls, Ontario, Canada. CD-ROM.

Essah, S.C., D.G. Holm, and **J.A. Delgado**. 2004. Yield and Quality of two U.S. Red Potatoes: Influence of nitrogen rate and plant population. *Proc. 4th Int'l. Crop Science Congress*. Sept. 26-Oct. 1, 2004. Brisbane, Queensland, Australia.

Halvorson, A.D., F. Schweissing, M. Bartolo, and **C.A. Reule**. 2004. Irrigated corn response to nitrogen fertilization in the Colorado Arkansas Valley. *In Proc. of 2004 Great Plains Soil Fertility Conference*. Denver, CO, March 2-3, 2004. Kansas State University, Manhattan, KS and Potash and Phosphate Institute, Brookings, SD. 10:157-163.

Halvorson, A. D., C. A. Reule, and J. Poole. 2004. Changes in soil organic carbon and soil nitrogen under irrigation in northern Texas. *In Proc. of the 2004 Fluid Forum*. February 22-24, 2004. Scottsdale, Arizona. Fluid Fertilizer Foundation. Fluid Fertilizer Foundation, Manhattan, KS. 21:112-118.

Halvorson, A. D., A. R. Mosier, and **C.A. Reule**. 2004. Nitrogen and crop management influence irrigated crop yields and greenhouse gas emissions. *In Proc. of the 2004 Great Plains Soil Fertility Conference*. A. Schlegel (Ed.). March 2-3, 2004. Denver, CO. Kansas State University, Manhattan and Potash and Phosphate Institute, Brookings, SD. 10:21-27.